

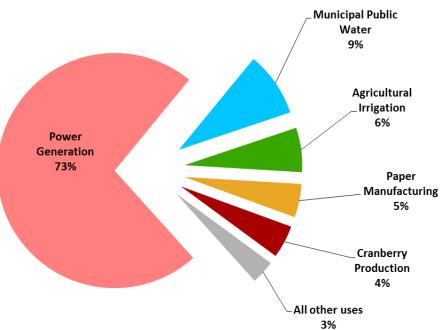
Wisconsin Water Use

2012 Withdrawal Summary

Water supply systems in Wisconsin capable of withdrawing 100,000 gallons per day are required to register and report withdrawals. In 2012, total statewide withdrawals exceeded 2.25 trillion gallons of water from over 14,000 wells, ponds, streams, rivers and lakes. This amount is roughly equal to 3 times the volume of water in Lake Winnebago or enough water to cover the surface area of Wisconsin in about 2 inches of water. Total 2012 withdrawals were up 4.80% from 2011.

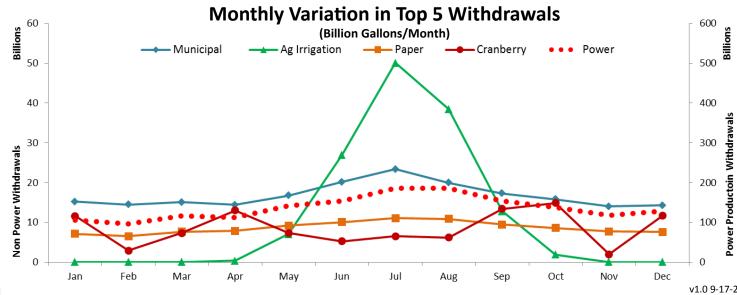
2012 Withdrawals by Use

Total Withdrawals = 2.258 Trillion Gallons



How and when water is withdrawn varies seasonally. Monthly withdrawal volumes typically vary throughout the year following temperatures and precipitation patterns. Extreme weather events in 2012 amplified monthly variation for irrigation and cranberry production.

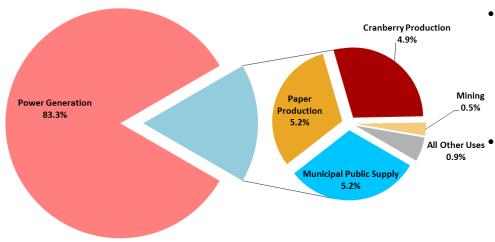
- Summer heat drives municipal water demand and cooling water demand for power and paper production.
- Agricultural irrigation withdrawals in July and August nearly doubled from 2011 withdrawals due to drought.
- In addition to the usual flooding for fall harvest and winter frost protection, many cranberry growers needed to flood cranberry beds in the unseasonably warm March and April to prevent their crop from growing too



Withdrawals by Basin and Source (Bgal) 1,800 1,600 1,400 Surface Water 1,200 ■ Ground Water 1,000 2012 2011 800 600 2011 2012 400 200 Mississippi R. L. Superior L. Michigan Major Basin

- Power production withdrawals declined in 2012 mostly due to decreased withdrawals at several large coal-fired plants.
- Withdrawals for irrigation spiked in 2012 due to the prolonged drought. Agricultural irrigation withdrawals increased 83.3% and golf course irrigation withdrawals increased 87.3% from 2011.
- Cranberry production withdrawals were up dramatically in 2012 due to the record heat in early spring, increased irrigation demand during summer and low reservoir levels in autumn.
- Municipal public water withdrawals were up 2.6%. This
 increase was somewhat reduced by conservation strategies
 and ordinances implemented by municipalities.

2012 <u>Total Surface Water</u> Withdrawals by Water Use 1.963 trillion gallons statewide



- Surface water withdrawals totaled 1.963 trillion gallons from 995 sources.
- The largest volume of water withdrawn in the state (1.64 trillion gallons) was used by power production facilities. These facilities are concentrated along Lake Michigan and the Wisconsin and Mississippi Rivers.
- Many surface water withdrawals are used and discharged near their point of withdrawal. This results in little water lost from the original source relative to the size of the withdrawal.

 Groundwater withdrawals totaled 292 billion gallons from over 13,000 high capacity wells.

- Agricultural irrigation represented the largest use of groundwater in the state, up from second place in 2011.
 Agricultural irrigation withdrawals increased 83%: from 74 billion gallons in 2011 to 135 billion gallons in 2012.
- Municipal Public Water Suppliers are typically owned by cities and deliver water for residential, commercial, institutional and industrial uses. These providers represented the second largest groundwater withdrawal at 99 billion gallons.

2012 Total Groundwater Withdrawals by Water Use
292 billion gallons statewide

Municipal Public Water
34%

Aquaculture
3%

Agricultural Irrigation
46%

Golf Course
3%

All Other Uses
11%